A SYSTEM AND METHOD FOR REDUCING DATA LOSS IN DISK ARRAYS BY ESTABLISHING DATA REDUNDANCY ON DEMAND

ABSTRACT

Disclosed is a system and method for reducing data loss in a disk array comprising computing redundant data of the user data in the disk array, periodically storing the computed redundant data into data blocks located on at least one disk; monitoring the disks for a number of concurrent actual and predicted disk failures to occur; determining which portions of the redundant data have been altered since an immediate previous time the redundant data was stored; re-computing altered portions of the redundant data and updating the corresponding data blocks when said number of concurrent disk failures occur and less than a fraction of the redundant data has been altered, reconstructing data stored on a failed disk onto at least one replacement disk; and marking the recomputed redundant data in a directory, wherein the disk array comprises one of the standard RAID arrays.

23

ARC920030067US1